

An Economic Analysis of Corporations' Reserves For Tax Audit Adjustments

by Thomas Horst



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In writing this article, the author has taken full advantage of the professional resources of Horst Frisch Inc., including the hard work of Sophia Dillon-Davidson and Margaux Lieser. However, the author alone is responsible for the analytical methods and opinions expressed.

With this article, the author continues his assessment of large U.S. nonfinancial corporations based on information in the financial statements corporations include with their annual SEC Forms 10-K. He focuses on disclosures regarding unrecognized tax benefits reserves for tax audit adjustments.

In a recent article, I evaluated the effect the Tax Cuts and Jobs Act has had on the generally accepted accounting principles effective tax rates (ETRs) of large U.S. nonfinancial corporations.¹ In reviewing the income tax notes to the financial statements included with corporations' SEC Forms 10-K, I noticed frequent and extensive disclosures regarding unrecognized tax benefits (UTBs), a technical term first used by the U.S.

Financial Accounting Standards Board in 2006.² It describes the liability a U.S. corporation must report at the end of each year to reflect additional taxes it may be required to pay in future years to settle audits of its tax returns for current and prior years. To make this article easier to understand, I will usually refer to the UTB liability as the "reserve for tax audit adjustments," which in broad terms is akin to reserves for warranty expenses or product liability costs the corporation may incur in future years for products sold in current or prior years.

Financial statement data regarding corporations' reserves for tax audit adjustments are interesting because of the way those reserves are calculated. Broadly speaking, to determine the total income tax that a U.S. corporation reports on its federal, state and local, and foreign tax returns, the corporation must take a series of tax positions, some of which are uncertain and may be challenged when tax authorities audit the corporation's returns. I am most familiar with tax audit uncertainty regarding transfer prices for transactions between affiliates of a multinational group, but there are many other areas of uncertainty, such as the characterization and source of items of income, the allocation and apportionment of expenses between or among different types of income, and determining whether a corporation has income attributable to a permanent establishment in various tax jurisdictions.

Faced with those uncertainties, a corporation might take aggressive positions on its returns in the hope that its ultimate tax liability for that year will be lower because its tax returns are not

¹Thomas Horst, "The TCJA's Impact on GAAP Effective Tax Rates of Large U.S. Nonfinancial Corporations," *Tax Notes Int'l*, May 27, 2019, p. 821.

²FIN 48 was incorporated into ASC 740-10, which is part of the codification of U.S. GAAP.

audited, its tax auditors chose not to pursue complex areas, or the tax authorities have limited resources for litigating contentious issues. But for GAAP financial reporting purposes, a corporation must evaluate all tax positions that are less than certain. According to FASB Interpretation No. 48:

The evaluation of a tax position in accordance with this Interpretation is a two-step process. The first step is recognition: The enterprise determines whether *it is more likely than not that a tax position will be sustained upon examination, including resolution of any related appeals or litigation processes, based on the technical merits of the position.* In evaluating whether a tax position has met the more-likely-than-not recognition threshold, the enterprise should presume that the position *will be examined by the appropriate taxing authority that would have full knowledge of all relevant information.* [Emphasis added.]

That is to say, the corporation must report current income tax expense in its GAAP financial statements based not on the taxes actually reported on its original tax returns for that year, but rather on the total tax that would have been reported if it had been restricted to taking only more-likely-than-not tax positions. For financial reporting purposes, the excess of the higher income tax expense reported on the corporation's financial statements over the lower income taxes reported on its original tax returns results in an increase in its balance sheet reserve for tax audit adjustments as of the end of the original tax return year. Accordingly, the increase in the reserve for audit adjustments for positions taken in the current year indicates the aggressiveness of the tax positions the corporation actually took in its original tax returns.

The uncertain result of the tax positions taken in the original tax returns will be resolved when the relevant statute of limitations has expired or when audit disputes are settled on examination, in appeals, by the competent authorities under a tax treaty, or through litigation — that is, in the final settlement year. The corporation will then make two adjustments to its GAAP financial statements. First, its reserve for tax audit

adjustments will be reduced by whatever amount the corporation previously recorded for its uncertain tax position. The reduction in the tax audit reserves does not reflect the terms of the settlement per se, but only the amount of the previously accrued reserve. Second, the corporation's current tax expense in the final settlement year will be increased (or reduced) by the difference between any additional taxes paid under the final settlement and the amount of the previously accrued reserve. Accordingly, the reduction (or increase) in a corporation's current income tax expense in the final settlement year that is attributed to prior-year tax returns reflects the payoff (or additional penalty) for UTPs previously taken.

Unlike the considerable public attention paid to corporations' ETRs, I am unaware of any tax policy studies addressing the extent to which corporations either take aggressive tax positions (as reflected in the increase in their reserves for tax audit adjustments) or benefit from taking aggressive tax positions in prior years. I hope this article elucidates important tax policy issues and encourages other researchers to investigate those topics.

I. Overview

The technical appendix of this article provides a hypothetical example of the increase in the reserve for tax audit adjustments in the original tax return year and the subsequent adjustment to the corporation's GAAP income tax expense in the final settlement year. Readers may find it easier to understand this article if they first understand the mechanics of calculating the reserve for tax audit adjustments.

Section II describes disclosures of reserves for tax audit adjustments that a corporation is required to include in the income tax note to its annual GAAP financial statements and summarizes my statistical analysis of the increases in tax audit reserves for tax positions taken in the current year for 151 large U.S. nonfinancial corporations. My statistical analysis focuses on increases in reserves for current tax positions because they measure the aggressiveness of the new tax positions taken by the corporation, as opposed to the current-year adjustments to revise reserves for tax positions taken in earlier years.

In that section, I conclude that for the corporations in my database, the cumulative increases in reserves for current tax positions for fiscal years beginning in 2015-2018 averaged 2.4 percent of their cumulative GAAP pretax income from continuing operations for that same four-year period. As explained in my previous article, the GAAP ETR for a year equals a corporation's GAAP income tax expense expressed as a percentage of its GAAP pretax income from continuing operations for that year.³ Also, tax executives of U.S. publicly traded companies are typically more focused on GAAP ETRs than on the cash-based ETRs that are often favored by tax analysts. Another way of stating the first conclusion is that the 2015-2018 average GAAP ETR would have been reduced by 2.4 percentage points had GAAP income tax expense reflected the (aggressive) positions that U.S. corporations actually took on their tax returns for those years, rather than the higher income tax expense that FIN 48 mandates under its more-likely-than-not standard.

My second conclusion is that the frequency distribution of corporations' average increases in reserves for current tax positions is highly skewed. Approximately 70 percent of all U.S. corporations in my database reported average increases in reserves for current tax positions of less than 2.4 percent GAAP pretax book income. The remaining 30 percent reported increases that were higher, and often much higher, than the 2.4 percent average increase for all corporations.

My third conclusion is that even after examining the correlations between increases in reserves for current tax positions and other financial ratios (for example, high research and development expenses as a percentage of sales, high shares of earnings before tax derived from foreign operations), I could not explain why some corporations take more aggressive tax positions than others. That seems like a prime topic for further research.

Section III of my article statistically analyzes the net impact on corporations' GAAP ETRs in 2015-2018 resulting from the settlement of tax audits for prior years. My first principal

conclusion is that adjustments for prior-year tax positions reduced large U.S. nonfinancial corporations' GAAP ETRs for those four years by an average of 0.2 percentage points. The second is that approximately 90 percent of all corporations adjusted their GAAP ETRs (positively or negatively) for settlements of prior-year tax disputes by less than 1.5 percentage points. Those results suggest that for every \$10 of increase in reserves for tax audit adjustments in the original tax return year, large U.S. nonfinancial corporations ultimately record an average reduction of \$1 in income tax expense in future years. Refining that preliminary estimate of the payoff to taking aggressive tax positions is another prime topic for further research. I also found no evidence that a corporation that had taken more aggressive tax positions in prior years achieved larger tax savings in 2015-2018.

From the corporations' perspective, there may be no good alternative to taking UTPs and incurring the costs of formulating and defending them. But from a public policy perspective, tax laws that make tax positions uncertain encourage risk-taking and invite contentious audits. The high cost of resolving audit disputes wastes both corporate and government resources.

II. Analysis of Reserves for Audit Adjustments

A. Financial Statement Disclosure

Under FIN 48, U.S. corporations include in the note to their annual financial statements regarding income taxes a reconciliation of the beginning and ending balances of their reserves for audit adjustments. Those annual reconciliations typically show the separate contributions of:

- additions based on tax positions for the current year;
- additions for tax positions of prior years;
- reductions for tax positions of prior years;
- effect of settlements pertaining to prior years; and
- reductions resulting from the lapse of applicable statutes of limitations.

As an example, Table 1 summarizes the reconciliation tables that 3M Co. provided in the income tax note of its SEC Form 10-K for the fiscal

³Horst, *supra* note 1.

Table 1. Reserve for Tax Audit Adjustments Reconciliation Table for 3M Co., 2015-2018 (\$, Millions)

Federal, State, and Foreign Tax	2015	2016	2017	2018
Gross UTB balance on January 1	583	381	319	530
Additions based on tax positions related to the current year	77	67	119	129
Additions for tax positions of prior years	140	43	149	146
Reductions for tax positions in prior years	(399)	(66)	(38)	(123)
Settlements	(4)	(95)	(3)	(17)
Reductions due to lapse of applicable statute of limitations	(16)	(11)	(16)	(18)
Gross UTB balance on December 31	381	319	530	647
Net UTB affecting the effective tax rate on December 31	369	333	526	655

years ended December 31, 2017, and December 31, 2018.⁴

As Table 1 indicates, a corporation may update its reserves for tax positions taken in earlier years that have not yet been settled. That is partly because a large U.S. corporation typically files its SEC Form 10-K in the second month following the end of its fiscal year. The increase in reserves for tax positions taken in the current year reflects an initial estimate of the taxes the corporation will report on its tax returns when they are filed several months later. Any difference (positive or negative) between the estimated tax return amounts in the financial statements for a year and the taxes actually reported on the tax return will be reflected as a revision of the audit reserves in the corporation's reconciliation table for the following year. In later years, the corporation may have good reason for revising its earlier assessments of the more-likely-than-not outcomes of an audit (for example, a court decision). Unfortunately, the reserve reconciliation tables that U.S. companies publicly disclose do not allocate prior-year adjustments to specific years. Accordingly, there is no way to track adjustments to reserves in years after the year the tax position was originally taken.

⁴ As explained in the text immediately following 3M's reconciliation table of the income tax note in its SEC Form 10-K, 3M's gross UTB balance includes not only tax audit adjustments per se, but also associated interest, penalties, and adjustments for deductible taxes.

B. Large U.S. Nonfinancial Corporation Database

I have statistically analyzed UTB reconciliation data that large U.S. nonfinancial corporations included with their SEC Forms 10-K for fiscal years that began between 2015 and 2018.⁵ My database for fiscal years starting between 2015 and 2017 includes data for the 151 large U.S. nonfinancial corporations that met all the following criteria:

- an SEC Form 10-K was available for 2017;
- a U.S. corporation was the parent company of the consolidated group;
- the Standard Industrial Classification code was not for financial services (codes 6XXX); and
- the market capitalization of the U.S. corporation's equity as of October 3, 2018, was at least \$25 billion.

My database for fiscal years starting in 2018 includes financial data for the 116 U.S. corporations that were included in my 2015-2017 database and that by May 31, 2019, had filed an SEC Form 10-K for a fiscal year starting in 2018.

Of the 151 corporations included in my 2017 database, 145 corporations provided reconciliation tables using the same format as that shown in Table 1. The reserves for tax audit adjustments appeared immaterial for the six corporations that did not provide a reconciliation table with their SEC Forms 10-K for 2017, so I

⁵ My database is described more fully in Section VII of Horst, *supra* note 1.

Table 2. Increase in Reserves for Current Tax Positions for 3M Co., 2015-2018

		2015	2016	2017	2018	Total
1	Increase in reserves for current tax positions (millions)	\$77	\$67	\$119	\$129	\$392
2	Income before tax from continuing operations (millions)	\$6,823	\$7,053	\$7,548	\$7,000	\$28,424
3	Increase in reserves for current tax positions	1.1%	0.9%	1.6%	1.8%	1.4%

continued to include those six corporations in my database and assumed that they accrued zero reserves.⁶

To compare one corporation's results with another's, I expressed the increase in a corporation's reserve for tax audit adjustments for the current year as a percentage of the corporation's pretax GAAP income from continuing operations. Accordingly, I had to drop from my database all corporations that reported a pretax GAAP loss for the relevant year(s).⁷

C. Analysis of Increases in Reserves

My statistical analysis focuses on corporations' increases in reserves for current tax positions because they reflect corporations' current strategy for minimizing their ultimate tax liabilities for that year, rather than their ongoing reassessments or final resolutions of UTPs taken in previous years. As noted above, I expressed each corporation's increase in reserves for current tax positions as a percentage of its pretax income from continuing operations for that year. To take a concrete example, in Table 2 I have calculated the increase in reserves for current tax positions for 3M from 2015 to 2018.

Expressed that way, a corporation's increase in reserves for current tax positions for a year is directly comparable to its GAAP ETR for that year. For example, 3M's average ETR between 2015 and 2018 increased by 1.4 percentage points

to provide a reserve for tax positions that were more aggressive than the more-likely-than-not positions underlying the income tax expense accrued on its financial statements for those years.

Table 3 summarizes the results of my statistical analysis of increases in reserves for current tax positions for all corporations in my database for fiscal years starting in 2015-2016 (weighted average), 2017, 2018, and 2015-2018 (weighted average).⁸ In each of those periods, I ranked the corporations according to the value of their increases in reserves for current tax positions. Table 3 shows the values for the 10th, 25th, 50th, 75th, and 90th percentiles, as well the average of those values for each period.⁹

For the 90th percentile, the increase in reserves for current tax positions rose sharply from 4.9 percent in 2015-2016 to 7 percent in 2017, and then fell to 5.4 percent in 2018. I believe the 2017 spike resulted mainly from uncertainty about the application of the TCJA's one-time transition tax imposed as of December 31, 2017, on the post-1986 earnings and profits of U.S. corporations' foreign subsidiaries.

Also, increases in reserves for current tax positions for the 25th, 50th, and 75th percentiles declined in 2018, which I suspect resulted mainly from the reduction in the federal rate from 35 percent to 21 percent. The tax cost of any given adjustment to taxable income varies in direct

⁶The six corporations included two airlines (Delta and Southwest), two defense contractors (General Dynamics and Lockheed Martin), and two regulated companies (NextEra Energy and Oneok). None reported any ETR adjustment for any year between 2015 and 2018 to reflect resolutions of prior-year tax disputes.

⁷For example, nine of the 151 corporations included in my 2017 database reported a cumulative pretax GAAP between 2015 and 2018, so my statistical results are based on the 142 corporations that reported cumulative pretax book income for that period.

⁸For corporations that had not filed an SEC Form 10-K as of April 30, 2019, I relied on the average increases in reserves for current tax positions for the three fiscal years from 2015 to 2017, rather than the four fiscal years from 2015 to 2018.

⁹I have not reported the simple average of increases in reserves for current tax positions for all corporations. Even though I had 151 corporations in my database, the simple average in any one year was heavily influenced by one or two extremely high values. In my view, the average of the percentile values that I have reported on the last line of Table 3 is a more reliable measure of the center of this frequency distribution than the simple average.

Table 3. Increase in Reserves for Current Tax Positions, by Percentile

	Percentile	2015-2016	2017	2018	2015-2018
1	10%	0.0%	0.0%	0.0%	0.0%
2	25%	0.3%	0.2%	0.1%	0.4%
3	50%	1.1%	1.1%	0.8%	1.3%
4	75%	2.8%	3.0%	2.3%	3.3%
5	90%	4.9%	7.0%	5.4%	6.8%
6	Average	1.8%	2.3%	1.7%	2.4%

proportion to the rate of tax. That the 2018 value for the 90th percentile, 5.4 percent, reverted toward the 2015-2016 value, rather than a lower value, may be because of uncertainties about how the new TCJA rules would apply to corporations with substantial shares of pretax earnings from foreign sources. That is to say, for some U.S. corporations, the TCJA increased, rather than reduced, the risk of tax positions to be taken.

The increase in the overall average from 1.8 percent to 2.3 percent in 2017 likely resulted from uncertainty about the transition tax on foreign subsidiaries' post-1986 E&P. Its decline to 1.7 percent in 2018 was likely the result of the TCJA's reduction in the corporate rate.

That the average percentile value is considerably higher than the median value indicates that the underlying frequency distribution is highly skewed. That skew is even more apparent in Figure 1, which is a histogram summarizing the frequency distribution of the 2015-2018 average values of increases in reserves for current tax positions for all corporations in my database.

Figure 1 shows that approximately 70 percent of all corporations had increases in reserves for current tax positions from 2015 to 2018 that are less than the 2.4 percent average percentile value shown in Table 3:

- the first bar indicates that approximately 33 percent of all large U.S. nonfinancial corporations recorded increases in reserves for current tax positions equal to 0 percent (after rounding to the nearest whole percent);
- the second bar indicates that approximately 20 percent of all large U.S. nonfinancial corporations recorded increases in reserves

for current tax positions equal to 1 percent (after rounding); and

- the third bar indicates that approximately 17 percent of all large U.S. nonfinancial corporations recorded increases in reserves for current tax positions equal to 2 percent (after rounding).

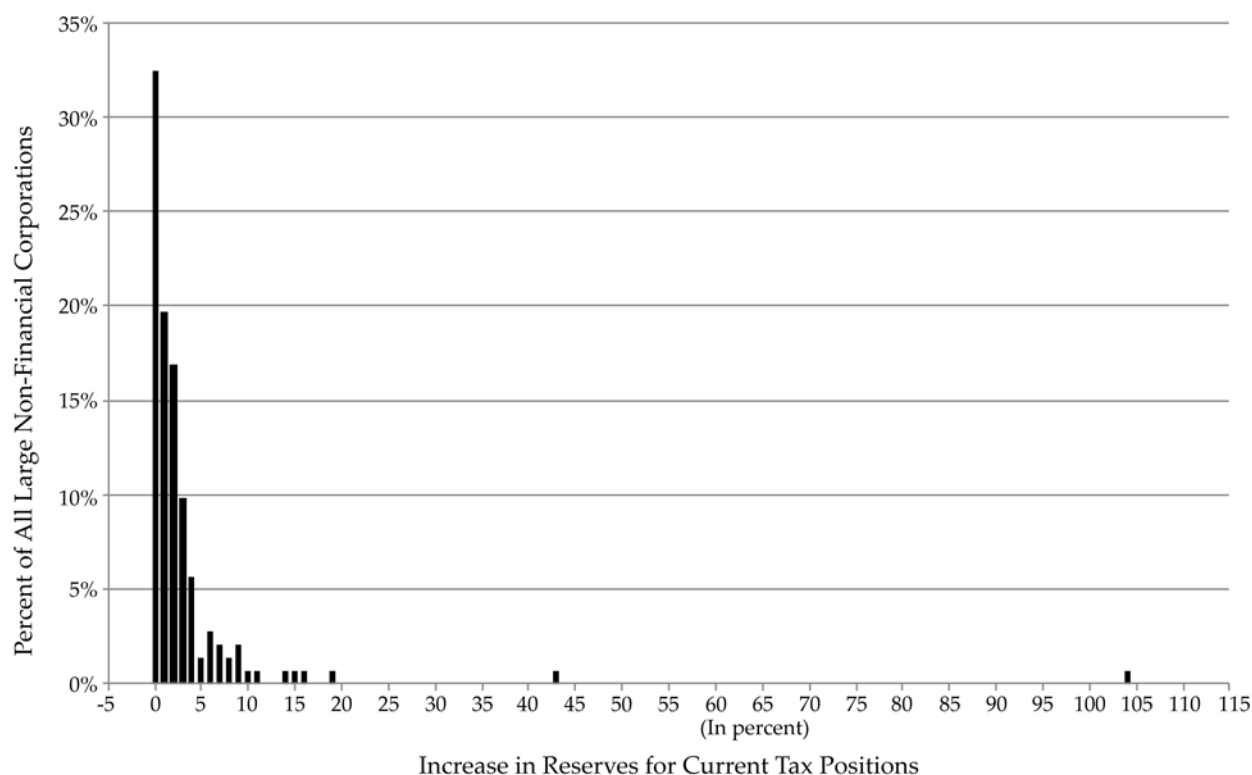
Perhaps the most interesting conclusion is what I did not find. After considerable investigation, I could not identify any statistically significant explanation (for example, high R&D expenses as a percentage of sales) for the variation among increases in reserves for current tax positions — that is, I cannot explain why some corporations accrue larger increases in reserves for current tax positions than other corporations do. As noted above, that question merits further investigation.

III. Prior-Year Positions and Current-Year ETRs

As explained in Section II, a corporation records an increase in its year-end reserve for tax audit adjustments for the year the UTP is taken. In subsequent years, the corporation may reassess the more-likely-than-not outcomes of those positions. The adjusted reserve is then eliminated either when the statute of limitations has expired or when the issue is ultimately settled (including through litigation). But to assess whether the terms of the ultimate settlements were favorable or unfavorable from the corporation's perspective, one must evaluate the impact of those settlements on the income tax expense in the year of settlement.¹⁰

¹⁰ See Appendix, Table 7, lines 15-19.

Figure 1. Frequency Distribution for Corporations' Average Increase in Reserves for Current Tax Positions, 2015-2018



The best (albeit incomplete) information about the effect of settlements of tax positions taken in prior years are the ETR reconciliation tables that corporations also include in their SEC Forms 10-K. Recall that an ETR expresses a corporation's GAAP income tax expense for a year as a percentage of its GAAP pretax income from continuing operations for that year. The income tax note to a corporation's GAAP financial statements includes an ETR reconciliation table that itemizes the principal reasons why a corporation's ETR for a year differs from the statutory federal tax rate for that year (35 percent through December 31, 2017, and 21 percent thereafter).

Table 4 shows the ETR reconciliation table that 3M provided in its SEC Forms 10-K.¹¹ The line labeled "Reserves for tax contingencies" indicates that to adjust for UTPs taken in previous years,

3M increased its ETR by 0.2 percentage points for 2016, 2.2 percentage points for 2017, and 1.2 percentage points for 2018.

Some corporations do not routinely identify the adjustment to their current ETRs for prior-year tax positions but do report significant one-time adjustments. As an example, Table 5 replicates the ETR reconciliation table that IBM Corp. provided in its SEC Forms 10-K.¹² The line labeled "Japan resolution" shows a 10 percentage point reduction on that account in IBM's ETR for 2016.¹³

¹¹ 3M's ETR reconciliation table for 2016-2018 is provided in its 2018 SEC Form 10-K; the comparable table for 2015 is provided in its 2017 SEC Form 10-K.

¹² IBM's ETR reconciliation for 2016-2018 is provided in its SEC Form 10-K; the comparable table for 2015 is provided in its 2017 SEC Form 10-K.

¹³ The text following IBM's reconciliation table in its 2018 SEC Form 10-K indicates that adjustments for resolutions of prior-year tax disputes other than the "Japan resolution" are included on other lines of IBM's ETR reconciliation table (presumably because they were not material).

Table 4. ETR Reconciliation Table for 3M Co., 2015-2018

	2015	2016	2017	2018
U.S. statutory rate	35.0%	35.0%	35.0%	21.0%
State income taxes — net of federal benefit	1.1%	0.9%	0.8%	1.0%
International income taxes — net	-3.9%	-2.7%	-6.3%	20.0%
Global intangible low-taxed income (GILTI)	-	-	-	1.1%
Foreign-derived intangible income (FDII)	-	-	-	-1.3%
U.S. TCJA — net impacts	-	-	10.1%	2.5%
U.S. research and development credit	-0.5%	-0.5%	-0.7%	-1.5%
Reserves for tax contingencies	-1.0%	0.2%	2.2%	1.2%
Domestic manufacturer's deduction	-1.8%	-1.8%	-1.8%	0.0%
Employee share-based payments	-0.1%	-2.8%	-3.2%	-1.4%
All other — net	0.3%	-	-0.6%	0.6%
Effective worldwide tax rate	29.1%	28.3%	35.5%	23.4%

Table 5. ETR Reconciliation Table for IBM Corp., 2015-2018

For the year ended December 31	2015	2016	2017	2018
Statutory rate	35%	35%	35%	21%
Enactment of U.S. tax reform	-	-	48%	18%
Tax differential on foreign income	-17%	-21%	-26%	-11%
Intra-entity transfers	-	-	-5%	-
Domestic incentives	-2%	-1%	-2%	-1%
State and local	1%	1%	1%	-1%
Japan resolution	-	-10%	-	-
Other	-1%	0%	-2%	-3%
Effective rate	16%	4%	49%	23%

Accordingly, for each corporation in my database, I determined the net contribution to the ETR for each year of adjustments for prior-year tax accruals (as illustrated in Table 4 for 3M and Table 5 for IBM). Consistent with my statistical analysis of increases in reserves for current tax positions, I have evaluated not only the variation in the effect of prior-year tax accruals on weighted average ETRs for 2015-2018, but also how that effect varied over those four years.

Figure 2 is a histogram depicting the frequency distribution of the effect of adjustments for prior-year tax positions on the weighted

average ETRs from 2015 to 2018 for large U.S. nonfinancial corporations in my database. Clearly, both the standard deviation and the skewness of the frequency distribution depicted in Figure 2 are significantly lower than those of the frequency distribution in Figure 1.

Approximately 70 percent of the large U.S. nonfinancial corporations in my database either identified no effect of prior-year tax accruals on ETRs for those four years or showed adjustments of less than 0.5 percent of the weighted average ETR for those four years.

Figure 2. Frequency Distribution of Average Adjustment to Corporations' ETRs For Prior-Year Tax Accruals, 2015-2018

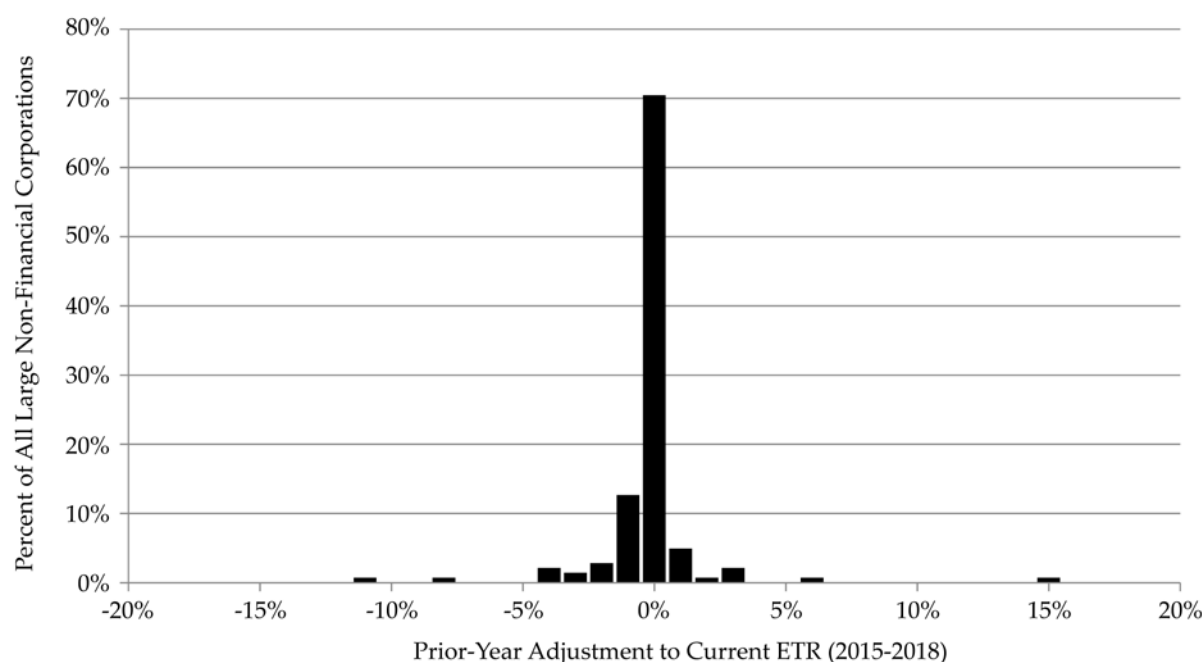


Table 6. Impact of Prior-Year Tax Adjustments on Current ETRs, by Percentile

	Percentile	2015-2016	2017	2018	2015-2018
1	10%	-1.4%	-1.2%	-1.6%	-1.2%
2	25%	0.0%	0.0%	0.0%	-0.2%
3	50%	0.0%	0.0%	0.0%	0.0%
4	75%	0.0%	0.0%	0.0%	0.0%
5	90%	0.3%	0.5%	0.6%	0.4%
6	Average	-0.2%	-0.1%	-0.2%	-0.2%

Approximately 13 percent of the corporations reported four-year weighted average adjustments that when rounded to the nearest whole percentage reflect a 1 percentage point reduction in their weighted average ETRs. Approximately 5 percent reported a weighted average contribution that when rounded equals a 1 percent increase in the weighted average ETR.

In short, for 88 percent of the corporations in my database, the absolute value of reported adjustments to current-year ETRs for prior years' tax positions was less than 1.5 percentage points.

In Table 6, I have shown percentile values of the impact of prior-year adjustments on the

current-year ETRs for 2015-2016 (weighted average), 2017, 2018, and 2015-2018 (weighted average).

The impact of prior-year adjustments to current ETRs appears more or less uniform over the four years. That is not particularly surprising, given that the major changes in federal income taxes resulting from the TCJA would not affect adjustments in 2015-2018 to tax accruals for prior years.

The percentile values in Table 6 also confirm that the frequency distribution of prior-year adjustments to current-year ETRs has a slight negative skew. As a result of that skew, the

average percentile values have small negative values, while the median values are consistently 0 percent.¹⁴ Simply put, the 0 percent median value indicates that a large U.S. nonfinancial corporation typically reported no adjustment to its cumulative ETR for 2015-2018 to reflect adjustments for tax positions made in prior years. The -0.2 percent average percentile value indicates that because the reductions in some corporations' ETRs were typically larger in absolute terms than the increases in other corporations' ETRs, the overall average adjustment for prior-year tax positions was a 0.2 percentage point reduction in corporations' ETRs for 2015-2018.

That reduction is approximately 10 percent of the comparable 2.4 percent value of average increases in reserves for current tax positions shown in Table 3. That suggests that for every \$10 of increases in reserves for current tax positions, large U.S. nonfinancial corporations may ultimately realize an average of \$1 in tax savings in future years.

Finally, the adjustment to a corporation's average ETRs for 2015-2018 for prior-year tax positions has no significant correlation with the magnitude of the corporation's year-end reserves for tax audit adjustments. That is to say, I found no evidence that a corporation that had taken more aggressive tax positions in prior years typically achieved larger tax savings in 2015-2018. As noted above, the payoff (if any) for taking UTPs is a good subject for further research.

Appendix

This appendix illustrates the calculations regarding reserves for tax audit adjustments.

Table 7 illustrates my understanding of how FIN 48 would apply to a hypothetical and highly simplified transfer pricing case. I make two simplifying assumptions. The first is the use of a profit-split method to divide \$1,000 of combined profit between a U.S. parent and its foreign subsidiary. The second is that only three equally

likely, distinct transfer pricing outcomes are possible:

- Alternative 1: a 25/75 split of the combined profit between the parent and subsidiary;
- Alternative 2: a 50/50 split between the parent and subsidiary; and
- Alternative 3: a 75/25 split between the parent and subsidiary.

Under those assumptions, FIN 48 would require the corporation to accrue \$200 of total income tax expense based on Alternative 2, because it is more beneficial than Alternative 3¹⁵ and unlike Alternative 1 has more than a 50 percent cumulative probability of success.¹⁶

FIN 48 governs the amount of income tax expense a corporation must accrue on its GAAP financial statements, but does not limit the amount of tax a corporation must report on its U.S. and foreign tax returns.¹⁷ U.S. corporations typically report lower total tax due on their various tax returns for a year than they accrue under FIN 48 on their financial statements for the year. But when that happens, FIN 48 requires the corporation to disclose on its GAAP financial statements the amount of the reserve for the additional taxes that may be required to settle tax audit disputes.

In the hypothetical, in the initial year, the corporation would accrue a UTB liability of \$50, which is the difference between the GAAP tax provision of \$200 based on the more-likely-than-not Alternative 2 and the \$150 of total tax reported on the corporations' tax returns based on the more aggressive Alternative 1. In the later year when the transfer pricing issue is settled, the adjustments to the corporations' tax payments and financial statement tax accrual will depend on which of the three alternatives prevails:

If Alternative 1 applies, no transfer pricing adjustment is made, so no additional income tax is paid. In its income statement for the year of settlement, the corporation will report a \$50 reduction in its current tax expense, which is the

¹⁴ That slight negative skew in the frequency distribution is also apparent in Figure 2 but is clearly smaller in absolute terms than the positive skew of increases in reserves for current tax positions apparent in Figure 1.

¹⁵ The benefit is inversely related to the total tax payable, shown in Exhibit 1, Line 7.

¹⁶ Line 9.

¹⁷ The IRS requires U.S. corporations to attach an uncertain tax position statement (Schedule UTP) to their annual corporate income tax returns (Form 1120).

difference between its earlier accrual of \$200 in income tax expense and the \$150 of tax that it ultimately pays.

If Alternative 2 applies, a \$250 transfer pricing adjustment is made,¹⁸ which results in a net increase of \$50 in income taxes paid.¹⁹ In its income statement for the year of settlement, the corporation will report no change in its current tax expense because its initial tax accrual of \$200 equals the \$200 total tax that it ultimately pays.

If Alternative 3 applies, a \$500 transfer pricing adjustment is made,²⁰ resulting in a net increase of \$100 in taxes paid.²¹ In its income statement for the year of settlement, the corporation will accrue \$50

of additional tax because the tax previously accrued, \$200, is \$50 less than the \$250 total income tax that it ultimately pays.

Under all three outcomes, the additional tax paid in the year the dispute is settled exceeds the additional tax accrued on the income statement for the year of settlement by \$50, the amount of the UTB liability accrued in the earlier year. Because the ultimate resolution of a transfer pricing or other tax dispute often covers one or more tax audit cycles, the resolution of major disputes may result in a large adjustment (positive or negative) to a corporation's current tax accruals in the year of resolution and heighten the year-to-year volatility in reported ETRs.²²

(See next page for Table 7.)

¹⁸ The \$250 transfer pricing adjustment is reflected in the increase in the profit allocated to the U.S. parent, shown on Line 3, Column <D> versus Column <C>. The example assumes that the profit allocated to the foreign subsidiary, shown on Line 5, is reduced by the same amount.

¹⁹ The net increase in total tax paid is shown on Line 15, Column <D> versus Column <C>.

²⁰ The \$500 transfer pricing adjustment is reflected by the increase in the profit allocated to the U.S. parent, shown on Line 3, Column <E> versus Column <C>. The example assumes that the profit allocated to the foreign subsidiary, shown on Line 5, is reduced by the same amount.

²¹ The net increase in total tax paid is shown on Line 15, Column <E> versus Column <C>.

²² A corporation's ETR is the income tax expense reported on a corporation's GAAP income statement expressed as a percentage of the corporation's GAAP pretax income from continuing operations. As explained in Horst, *supra* note 1, the ETRs reported by large U.S. nonfinancial corporations fluctuate widely from one year to the next because of large, one-time adjustments (positive and negative) for various reasons (for example, mergers, acquisitions, divestitures, and changes in tax or financial accounting methods).

Table 7. Hypothetical Example of Calculations Regarding Reserve for Tax Audit Adjustments

		<A>		<C>	<D>	<E>
		Alternative Tax Return Positions				
		Rate	#1	#2	#3	Explanation
	Amounts Reported Under Alternative Tax Return Positions					
1	Consolidated profit on third-party sale		\$1,000	\$1,000	\$1,000	Assumed values
2	Profit allocated to U.S. parent (percent)		25%	50%	75%	Assumed values
3	Profit allocated to U.S. parent		\$250	\$500	\$750	#2 * #1
4	U.S. parent tax	30%	\$75	\$150	\$225	30% of #3
5	Profit allocated to foreign subsidiary		\$750	\$500	\$250	#1 - #3
6	Foreign subsidiary tax	10%	\$75	\$50	\$25	10% of #5
7	Total tax reportable on filed tax returns		\$150	\$200	\$250	#4 + #6
	Results Reported in Year Tax Position Taken					
8	Probability of alternative tax return positions		33.3%	33.3%	33.3%	Assumed values
9	Cumulative probability of alternative tax return positions		33.3%	66.7%	100.0%	Cumulative #8
10	More-likely-than-not tax return position		0	1	0	First #9 > 50%, 1, 0
11	Current tax expense per GAAP financial statement			\$200		If #10 = 1, #7
12	Tax return position actually taken		1			1 if position is taken
13	Total tax reported under tax return position actually taken		\$150			#7 if #12 = 1
14	Addition to reserve for tax audit adjustments		\$50	\$50	\$50	#11 - #13
	Results Reported in Year Tax Audit Is Settled					
15	Total tax payable under alternative tax audit settlements		\$150	\$200	\$250	#7
16	Total tax reported under tax return position actually taken		\$150	\$150	\$150	#13
17	Additional tax paid to settle tax audit		\$0	\$50	\$100	#15 - #16
18	Existing reserve for tax audit settlement		\$50	\$50	\$50	#14
19	Adjustment to GAAP current tax expense in year of settlement		(\$50)	\$0	\$50	#17 - #18